

July 10, 1987

TO: File

FROM: James Leatherwood *JL*

Re: Review of June 12, 1987 Draft Response, Topaz Mining Property, Brushwellman Inc., ACT/023/003, Juab County, Utah

The above referenced response to the November 1986 reclamation plan submittal has been reviewed. The following concern and stipulation must be addressed.

Rule M-10(14) - JSL

As outlined in the previous deficiency document March 30, 1987, there is a concern to adding CaCO_3 as a source of Ca^{2+} to displace the Na^+ cations along the soil matrix. After further investigation by this reviewer, it has been determined that lime is not sufficiently soluble to serve as an amendment for sodic soil reclamation. It can be used as a source of soluble calcium only if an acidifying amendment is applied to dissolve the lime before reclamation began. Common acidifying amendments for reclamation of calcareous sodic soils include sulfuric acid and elemental sulfur. The sulfur must be oxidized to sulfuric acid before it is effective. A common amendment for reclamation of sodic soils is gypsum or possibly lime-sulfur. One of these two amendments would be more advantageous to the operator than the application of CaCO_3 .

The Division approves the variance to Rule M-10(14) to allow the backfilled pits designated Fluro #1, Rainbow #1, Blue Chalk North #1 & #2, and Blue Chalk South #2 to be covered with rhyolite and not topsoiled due to the lack of soil materials within these areas, with a commitment to the following stipulation:

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